



SHIKSHA CLASSES

Sub. : Maths

Question Paper

Marks : 20

Std. : VIIIth - S.B.

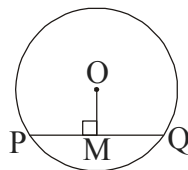
17. Circle : Chord and Arc

Time : 45 min.

Q.1 : A) Select the most appropriate Alternative.

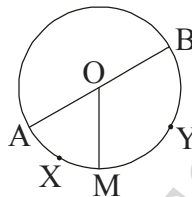
02

1) In the figure, if $l(PM) = 4$ cm then $l(PQ) =$ _____.



- a) 4 cm b) 2 cm c) 8 cm d) cannot be determined

2) In the figure, $m(\text{arc AXM}) = 60^\circ$ then $\angle BOM =$ _____.



- a) 60° b) 180° c) 120° d) 130°

: B) Solve the following.

01

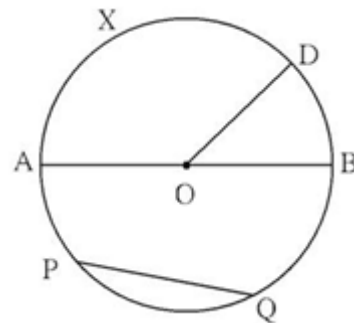
1) Find diameter if radius of the circle is 5 cm.

Q.2 : A) Solve any one of the following. (Activity)

02

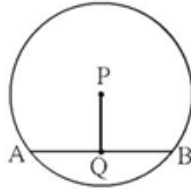
1) In the adjoining figure O is the centre of the circle.

With reference



- i) Seg OD is of the circle.
ii) Seg AB is of the circle.
iii) Seg PQ is of the circle.
iv) is the central angle.

- 2) In a circle with centre P, chord AB is drawn of length 13 cm, seg PQ \perp chord AB, then find $l(QB)$.



Ans : $l(AB) = 13$ cm

.... (Given)

seg PQ \perp chord

The perpendicular drawn from the centre of a circle to its chord bisects the chord.

$$\therefore l(QB) = \frac{1}{2} \text{ }$$

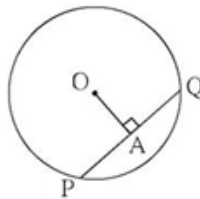
$$\therefore l(QB) = \frac{1}{2} \times \text{ }$$

$$\therefore l(QB) = \text{ } \text{ cm}$$

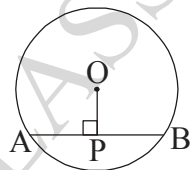
: B) Solve any one of the following.

02

- 1) In a circle with centre O, seg PQ is a chord of length 7 cm. seg OA \perp chord PQ, then find $l(AP)$.



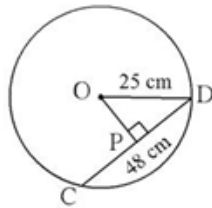
- 2) In figure 'O' in centre of the circle seg AB is the chord and seg OP \perp chord AB. If $l(AP) = 3x$ and $l(PB) = 27$ then find the value of x.



Q.3 : A) Solve any one of the following.(Activity)

03

- 1) Activity : Draw a circle with centre O
- 2) Draw $\angle COD$ and $\angle AOB$ of same measure. You will find that the arc AXB and arc CYD are congruent.
- 3) Draw chords AB and CD.
Write your observations.
- 2) Radius of a circle with centre O is 25 cm. Find the distance of a chord from the centre if length of the chord is 48 cm.



$$l(OD) = 25 \text{ cm}, l(CD) = 48 \text{ cm}$$

... (Given)

seg $OP \perp$ chord CD

The perpendicular drawn from the centre of the circle to its chord bisects the chord.

$$\therefore l(PD) = \frac{1}{2} \square$$

$$\therefore l(PD) = \frac{1}{2} \times \square$$

$$\therefore l(PD) = 24 \text{ cm}$$

In right angled $\triangle OPD$,

by Pythagoras theorem,

$$\therefore l(OD)^2 = l(OP)^2 + \square$$

$$\therefore 25^2 = l(OP)^2 + \square$$

$$\therefore 625 = l(OP)^2 + \square$$

$$\therefore l(OP)^2 = 625 - \square$$

$$\therefore l(OP)^2 = 49$$

$$\therefore l(OP) = \sqrt{49}$$

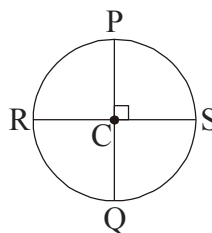
$$\therefore l(OP) = 7 \text{ cm}$$

Distance of the chord from the centre is 7 cm.

: B) Solve any one of the following.

03

- 1) The diameters PQ and RS of the circle with centre C are perpendicular to each other at C . State, why arc PS and arc SQ are congruent. Write the other arcs which are congruent to arc PS

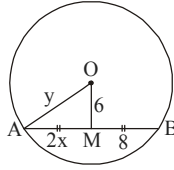


- 2) C is the centre of the circle whose radius is 10 cm. Find the distance of the chord from the centre if the length of the chord is 12 cm.

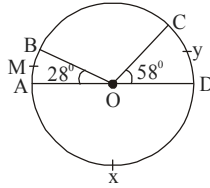
Q.4 : Solve any one of the following.

04

- 1) In figure, O is the centre of the circle, M is the midpoint of chord AB $l(AM) = 2x$, $l(MB) = 8$, $l(OM) = 6$ and $l(OA) = y$ then find the values of x and y. Also find the length of the longest chord of the circle.



- 2) In figure 'O' is centre of the circle, $m\angle AOB = 28^\circ$, $m\angle COD = 58^\circ$, then find.



- i) $m(\text{arc CYD})$ ii) $m(\text{arc AMB})$
iii) $m(\text{arc ADC})$ iv) $m(\text{arc BC})$

Q.5 : Solve any one of the following.

03

- 1) Radius of a circle with centre O is 10 cm. Find the length of the chord if the chord is at a distance of 6 cm from the centre.
- 2) The length of a chord of a circle of 16.8 cm, radius is 9.1 cm. Find its distance from the centre.

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